

Stress Factors of the Virtual Environment of a Metropolis: Perception of Youth

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Abstract. The purpose of this article is to study typical stress factors of the urban environment in its virtual refraction in the context of the subjective assessment of their importance by urban youth. As a result of a survey of 210 respondents, in the age range from 18 to 30, living in two large cities of the Ural Federal District, Ekaterinburg and Tyumen, a list of typical stress factors of a virtual city environment was identified, among which the most mentioned by young people are an overabundance of information and a violation of the usability of the information content, and the most stressful are the intrusiveness of virtual city services and deanonymization.

Keywords: metropolis, stress factors, urban environment, virtual environment, youth's perception

1. Introduction

The city is a place where the average person spends most of their life, professionally and personally realizes themselves, builds communication and sets personal goals. Such a city should be as comfortable as possible, ergonomically organised and safe for residents, as well as congruently presented in a virtual environment, since this is the only way to build its interaction with young people in the context of widespread digitalization of various spheres of social life. The virtual environment of the city becomes an integral part of its image, a fully-fledged tool for the formation of a certain image or brand. At the same time, the eclecticism of real and virtual images creates a completely special space, scientific ideas about which are extremely fragmented and few in number. Such an environment produces completely different models of youth behaviour, requiring a detailed and comprehensive study and understanding of the mechanisms of their formation, since, in addition to a pro-social orientation, they can have (and obviously do have) a deviant version of development.

Thus, the scientific problem of this study is the lack of scientific knowledge about the already existing model of a modern city in the perceptions of young people, consisting of an organic synthesis of its real and virtual environment and, as a consequence, a lack of understanding of the mechanisms of formation of the behavioural activity of young people in such an urban space, including deviant orientation as well.

The solution to the stated problem is seen in the organization and conduct of a comprehensive fundamental research aimed, on the one hand, at studying the image of the city and attitudes towards it among young people in the aggregate of its virtual and real environment, and on the other hand, at describing the mechanisms and general characteristics of the behavioural activity of representatives of this age group, obtained through field and laboratory experiments. The key task will be to find and form a model of environmental predictors (virtual and real urban space) that determines the behavioural deviations of young people.

Currently, most people live in cities; therefore, strategic studies are certainly highly relevant and necessary to clarify the influence of this evolutionarily unfamiliar habitat on the psyche, behavioural activity and psychological well-being of a person in an urban space. At the same time, the modern urban space is rapidly evolving, saturated with new technological components, moving into a new plane of presence in human life — virtual space. As a result, both the usual schemes for constructing the orientation of space and its value are subject to changes, the activities carried out in certain places of the city change, new mechanisms and strategies for self-realization are developed. In the urban space, along with a galaxy of opportunities, new factors arise that increase the level of stress in the urban environment, and the subjective comparative assessment of the previously existing adverse effects of the urban environment is transformed. The consequence of this is a change in the typical forms of human behaviour in the urban space. These tendencies are most acutely felt in large cities and megalopolises demonstrating advanced positions in the development of technological and social innovations. At the same time, it is the younger generation who has a higher level of activity and greater digital competence that is most sensitive to such transformations. However, close interaction with the new conditions of the urban environment, which is formed at the junction of real and virtual space, can be the reason for the development of new forms of marginal and deviant behaviour which in turn requires their timely study and prevention.

In modern psychological science, interest in the problem of the environmental conditioning of human behaviour is becoming more active, the number of research works is increasing, and large-scale scientific events are being held. At the same time, among the top topics, the problems of the urban environment and its factors that determine the quality of life of various categories of the population and their behaviour in the urban space are increasingly heard. Nevertheless, the elaboration of this topic is more represented in foreign socio-psychological science. At the same time, by foreign scientists the city is understood as a special territorial community (E. Burgess, L. Pal, R. Park, D. Poplin, E. Shils), and Schepansky defined the city as a historically formed, territorially localized form of organization of the life of society, the functioning of which is based on the mechanism of the urban structure, expressing the means of the interconnection of subsystems that make up the socio-spatial structure of the city: urban social infrastructure, urban social morphology, social stratification urban population, urban culture, urban lifestyle [Schepansky, 1969]. Lynch and other researchers of the psychological aspect of the urban environment pointed out that the city should exist primarily for a person and, accordingly, satisfy not only their utilitarian needs, but also be congruent with their psychology and cultural-aesthetic needs [Lynch, 1982]. However, the city can be a source of stress and a decrease in the quality of life of a person in it. Some foreign concepts that consider the psychological characteristics of life in the city directly relate to the issues of human limitations via environmental factors, overload of their perception and exposure to stress from the environment (H. Proshansky and D. Stokolza's theory of limitation of behaviour; S. Milgram's theory of overload; D. Glass and J. Singer's theory of the environment as a source; D. Warville's theory of the adaptation level). It is understood that some of the stimuli of the urban environment can be experienced by a person as a threat and cause stress responses at the emotional, behavioural or physiological levels.

The studies of the last 5 years in foreign psychology of the environment, related to the study of the interaction of the city and the person, within the framework of the subject of interest to us, are mainly devoted to the following issues:

- the problem of orientation in space taking into account the changed mechanisms for constructing routes, including when interacting with virtual navigation services, social networks, etc. [Muller, 2017; Lopes, Cordovil and Neto, 2018; Schoenau and D'Acci, 2019];

- building the image of the city, assessing its attractiveness, behavioural reactions and strategies related to this [Belanche, Casalo and Flavian, 2017; Marcus 2018; Molana and Adams 2019; Valibeigi, Ghorbani and Jahanmehmani, 2019];

- characteristics of the urban space that determine the activity of residents [Kaaronen, 2017; Dmitriou, Stylianou, and Yannis, 2018; Kytta et al., 2018;] including deviant behaviour [Younan, and Tuvblad et al., 2016; Kimpton, Corcoran and Wickes, 2017];

- stress factors of the urban environment that affect the quality of life of the urban population and contribute to the development of certain types of behavioural reactions [Berto, 2014; Juan, Subiza-Perez, Vozmediano, 2017; Roe, Aspinall, Thompson, 2017; Russart, Nelson, 2018] including of a deviant character [Younan, Tuvblad, Franklin M. et al., 2018].

Until recently, studies on the characteristics of perception and interaction with the environment including the urban environment in Russian psychology were also fragmentary. At the same time, the prerequisites for revising the understanding of the phenomenon of the environment were the works of B. G. Ananyev, M. Ya. Basov, T. M. Dridze, V. L. Glazychev, G. Z. Kaganov, Y. Kruusvala, T. Niita, V. I. Panov, M. Heidmets, M. Chenoushek and others.

Over the past decade in Russia, the interest in the study of the environmental conditioning of human behaviour has significantly increased. Now the environment has begun to be considered much broader than in classical studies of the twentieth century and includes the spatio-subject and even temporal characteristics. Such industries that study the psychological aspects of the environment as environmental psychology or environmental psychology (V. I. Elensky, E. A. Solovieva, H. E. Panov), urban psychology (A. V. Baranov, V. L. Glazychev, L. B. Kogan, D. N. Sazonov), psychology of interaction with the environment (L. V. Smolova etc.) are starting to develop.

Despite the fact that the study of the socio-psychological aspects of the urban environment is a less common topic in domestic science, compared to foreign scientific space, nevertheless, within the framework of the problems of the presented project in the continuum of scientific publications, several thematic areas can be distinguished:

- the image of the city and the technology of work on its formation and positivity [Abramova, Antonova, Pimenova, 2019; Valishin, Arustamov, 2018; Druzhko, Kapkaev, 2017];

- the image of a virtual city and digitalization of urban space [Balyushina, 2019; Zheleznyak, 2011; Turkina, 2009];
- socio-psychological problems of urban space organization and stress factors of the urban environment [Prokopyeva, 2018; Barkovskaya, Nazarova, 2014; Kruzhkova, 2014];
- destructive and deviant behaviour caused by factors of the urban environment [Boltaevsky, Pryadko, 2015; Obolenskaya, Karimova, 2017; Rudenkin, Vorobyova, Kruzhkova et al., 2018].

Nevertheless, both in foreign and domestic scientific works, the topic of the synthesis of real and virtual urban space, new challenges of this interaction, including the aspect of assessing the potential risks of the development of deviant behaviour of young people as the most socially active group of the population of a megacity, has not been practically raised.

2. Methods

The study of stress factors of the virtual urban environment involved 210 respondents, in the age range from 18 to 30 and living in two large cities of the Ural Federal District, Ekaterinburg and Tyumen. Two survey forms were used to collect the data, namely a free essay description on the topic What Annoys Me in a Virtual Urban Environment and Causes Stress and a ranked list of 10 items in the form of an open-ended question on the stress factors of a digital city. The results obtained were processed by the method of content analysis and frequency analysis. Fisher's criterion (angular transformation) was used to identify the differences.

3. Results and discussions

Initially, it was found that the lists of stress factors in the virtual space of two large cities in the perception of young people living in them do not have statistically significant differences in all analysed groups (11 groups of stress factors). In this regard, the data were combined into a general sample without taking into account the specific city of residence of the respondents. Data analysis was carried out in two directions: 1) highlighting the most frequent (often found in respondents' answers) stress factors of the virtual city; 2) compilation of a ranked list of stress factors according to the degree of their significance for young people.

The results of the frequency analysis showed that there are two groups of stress factors of the virtual urban environment most mentioned by young

people (20 % each in the total volume of the mentioned stress factors) — an overabundance of information and a violation of the usability of the information content. Thus, the study participants pointed out that the city's information space is oversaturated with unnecessary information, including an abundance of unnecessary advertising, intrusive news content, annoying pop-up windows, and spam. An annoying factor of equal representation in the respondents' answers is the lack of ergonomics of the digital city, i. e. ease of use of sites with urban digital resources, the aesthetics of their design, and the optimum navigation algorithms for users. According to respondents, 15 % of the total volume of stress factors in the virtual environment of the city is occupied by the factor of the lack of necessary information or its insignificant amount. Young people point to the scarcity of the digital city, its fragmentation and the lack of a variety of information which is concentrated mainly around the function of alerting about something. 11 % of all mentioned stress factors are occupied by problems of technical access to the Internet — connection complexity, the lack of network coverage, low speed, etc. 10 % of the annoying factors, in the opinion of young people, relate to inaccurate information in the Internet environment regarding the virtual city, namely, incorrect facts, inaccuracy or erroneous information that is presented about the urban environment in the digital format. Also, among the respondents' answers, groups of factors annoying in the virtual environment of the city were singled out — problems of interaction and communication including aggression, user intolerance and cyber bullying; safety of data and confidentiality of information; unreliability of virtual city objects to their counterparts in a real urban space; intrusiveness of digital city services and requirements for mandatory registration of users; a lack of special skills for using virtual city services.

For a more detailed understanding of the degree of importance for the respondents of each of the identified groups of stress factors, the average rank of responses for each group was calculated and, in accordance with it, a place (from 1 to 11) was assigned from the most significant to the least. The results of ranking the groups of stress factors of the virtual city according to the degree of importance which was indicated by the respondents themselves ranking the adverse effects of the environment of a large virtual city from the most significant to the least in the individual list showed that the first place is occupied by the intrusiveness factor of virtual city services and the requirement for mandatory registration of their users; in sec-

ond place — technical problems of access to the network, in third — a lack of necessary information or its insufficient amount. Thus, young people react most sharply to the lack of choice and the coercion to abandon anonymity in a virtual city, to the technical difficulties associated with access to the virtual space of a metropolis and the mosaic and fragmented nature of its information content.

4. Conclusions

Thus, the analysis of young people's perception of stress factors of the virtual urban environment made it possible to formulate the following conclusions.

First, the virtual city for young people, like the space of a real big city, is quite saturated with stress factors, i.e. such stimuli which, subject to systematic exposure, can form not only negative emotional reactions, but also cause more destructive states, from aggression to apathy and depression.

Secondly, the virtual city in the minds of young people is to a large degree informational content that is presented on the Internet about a real city and the overwhelming number of stress factors characterize its problem areas, i.e. an abundance of unnecessary information, a lack of necessary information, the problem of search and navigation in abundance various data, etc. This emphasizes a certain information dominant or vector along which the virtual representation of a modern metropolis on the Internet develops, which correlates with the processes of replication of the most functionally significant aspects of human activity in the urban environment — orientation around the city thanks to online maps, search for goods or services, operational information about the most significant city events. The stress factors of virtual communication in the city are less represented, and there are practically no stimuli of the emotional and value sense.

Thirdly, the virtual city for its young residents is an integral part of the real urban space. Probably, now they are still ordinary users of urban digital services, but in the near future the virtual city will become exactly what it seems to them, the way it will be convenient for young people and maximally congruent with their actual age-related tasks.

Conflict of Interest

The authors have no conflict of interest to declare.

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Cyber Bullying in the Modern Media Environment: Sociological Analysis of the Ideas of Adolescents and Teachers (Based on the Materials of Applied Sociological Research)

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Abstract. The widespread use of the Internet determines the specifics of the social situation of a modern metropolis. Together with its information, technological, communication and educational resources, various risks and threats enter the life of a modern teenager. Analysing the degree of trust (distrust) in online information, recognising potential dangers, determining the mechanisms of personal and group protection and the skills of their application — these are the range of issues that require special applied research in the current circumstances. Using the example of an original sociological study, the author shows the emerging tendencies characteristic of the Ural region in the study of the social phenomenon of cyber bullying. The results obtained by survey